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THE U. S. MARKET FOR RAPESEED AND RAPESEED OIL

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The Market Is Not Large

Volume and total value of rapeseed and rapeseed oil marketed in the United States are small when compared to the total marketings of domestically produced oilseeds and vegetable oils. This is due to several factors: (1) small domestic production, (2) greater availability and lower prices for competing oils, (3) limited industrial uses, and (4) import duty and tax restrictions. Rapeseed is grown for food oil marketing in Europe and Asia but it is not processed for food in the United States.

Market knowledge of sources, volume and end-use patterns of rapeseed and rapeseed oil fills a need for information on one phase of a research project on the potential of Crambe abyssinica. 1/ Crambe is a new oilseed under development in the Department's new crops program. Its oil is similar in chemical composition to rapeseed oil but it may have an advantage over rapeseed oil for derivatives that require a higher erucic acid content than rapeseed offers. In other uses such as rubber substitutes the two oils would be expected to impart nearly equivalent properties to finished products.

Sources and end-use patterns of rapeseed and rapeseed oil are shown in the chart on page 36.

Rapeseed has three major uses as: (1) crushings of seed for oil and meal, (2) bird feeds, and (3) planting seed. Domestically-produced rapeseed contributes a minor part to the commercial market. Domestic oil mills that crush domestic and imported rapeseed supply 5 percent or less of the total rapeseed oil requirements. Factors that influence distribution and usage patterns of rapeseed oil in United States markets are: (1) rapeseed oils are limited by price-property criteria to specific end-uses; (2) manufacturers who take most of the oil require some further processing before use, such as blowing or vulcanization, and (3) production, processing, and usage of rapeseed oil involve only a few firms.

1/ Crambe, A Potential New Crop for Industrial and Feed Uses, ARS 34-42, Agricultural Research Service, U. S. Department of Agriculture, 1962.

Trotter, Warren K., Poats, Frederick J., and Wolff, Ivan A., New Industrial Crops--Some Economic Considerations, Agricultural Economic Report No. 10, U. S. Department of Agriculture, June 1962.

Bruun, Johannes H., Matchett, John R., Utilization Potential of Crambe Abyssinica, Journal of the American Oil Chemists Society, Jan. 1963, Vol. 40, No. 1, pp. 1-5.

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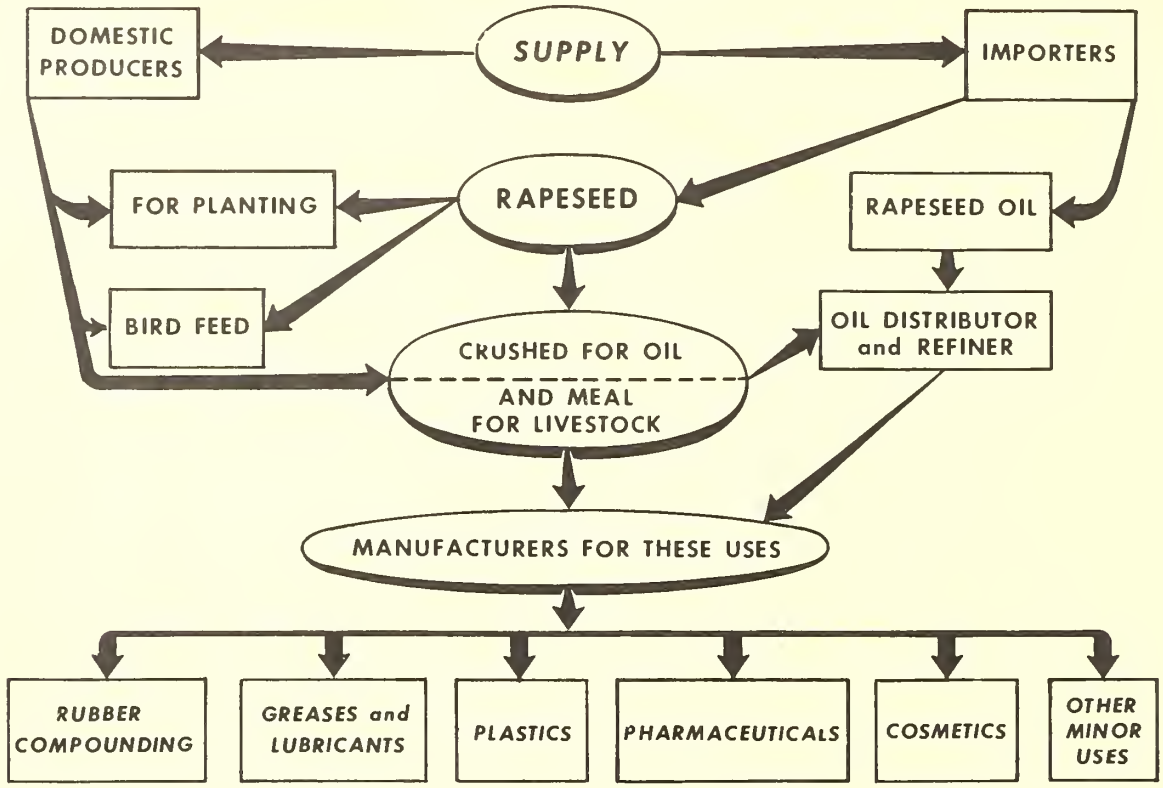
SOURCES AND END-USES OF RAPESEED AND RAPESEED OIL, UNITED STATES



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U. S. Supply of Rapeseed and Oil Are Provided Chiefly Through Imports

Total imports of rapeseed and rapeseed oil for 1959 through 1962 are shown in table 26.

Table 26.--U. S. imports of rapeseed and rapeseed oil, 1959-1962 1/

Year	Rapeseed	Rapeseed oil
	Tons	Tons
1959	303.4	1,617.5
1960	450.2	1,243.8
1961	691.9	2,424.4
1962	2/933.2	2/2,049.8

1/ U. S. Bureau of the Census.
2/ Preliminary.

Imports during this period show an upward trend, rapeseed with an annual average increase of 157 tons and rapeseed oil with an annual average increase of 108 tons. During the 1959-1962 period, rapeseed was imported from three countries: Canada, the Netherlands, and Denmark. Rapeseed oil, for the same period, was imported from Canada, Sweden, and Germany.

Uses of Imported Rapeseed. Imported rapeseed has three market outlets: seed, bird feed mixes, and oil mills. Estimated volume and percent of imports entering each outlet are shown in Table 27.

Table 27.--U. S. imports and uses of rapeseed, 1959-1962

Year	Imports 1/	Bird feed 2/		Seed 3/		Available for crushing 4/	
	Tons	Tons	Percent	Tons	Percent	Tons	Percent
1959	303.4	181.5	59.8	5.0	1.6	116.9	38.6
1960	450.2	275.2	61.1	134.0	29.8	41.0	9.1
1961	691.9	337.8	48.8	23.0	3.3	331.1	47.9
1962 5/	933.2	368.6	39.5	43.0	4.6	521.6	55.9

1/ U. S. Bureau of the Census. 2/ Industry sources. 3/ Agricultural Statistics 1962. 4/ Total imports minus the amount used for seed and bird feed. 5/ Preliminary.

The annual volume of rapeseed imported for planting has fluctuated widely--ranging from 5 tons in 1959 to 134 tons in 1960. Rape is an unusual farm crop. It is planted for such purposes as marketable bird seed; a cover crop; in aviculture, (as a game bird feeding ground improvement); and on an experimental basis, recently, as an apiculture crop for honey production improvement. Since acreages seeded vary from year to year, seed imports for these uses likely will continue to show wide variations.

About a half of the annual imported rapeseed is used for bird feed mixtures. Trade sources estimate that volume imported for this use will continue at about the same rate in the future as shown for the past three years.

Rapeseed not used for seeding or bird feed is available for crushing. During the 1959-1962 period, the percent of total seed imports crushed ranged from 9 to 56 percent. Domestic oil mills that crush rapeseed have marketing arrangements with buyers for their oil and meal. Also, rapeseed processing utilizes only a small part of their mill capacities. These considerations suggest that the volume imported for crushing in the future will range from 25 to 40 percent of total seed imports.

Uses of Imported Rapeseed Oil. Rapeseed oil, for industrial purposes, is obtained from two sources: imports and domestic oil mills (see table 28).

Table 28.--Estimated U. S. supply of rapeseed oil from imports, 1959-1962

Year	Total 1/	As oil	As oil from imported seed
	Tons	Percent	Percent
1959	1,658.4	97.5	2.5
1960	1,258.2	98.9	1.1
1961	2,540.3	95.4	4.6
1962	2,232.4	91.8	8.2

1/ Includes imported whole rapeseed oil and oil available from rapeseed imported for crushing.

Rapeseed oil is used as a raw material in making some lubricating oils and greases, in rubber compounding, in plastics, in pharmaceuticals and cosmetics, and other miner uses. The rubber and lubricant industries are the largest consumers of imported rapeseed oil (see table 29).

Table 29.--Percent of the total available supply of rapeseed oil used by the rubber and lubricant industries, 1959-1962

Year	Percent of available supply	Percent available for other uses
1959	97.5	2.5
1960	87.1	12.9
1961	93.6	6.4
1962	91.8	8.2

Duties, Prices, Usage Practice and Substitutes Affect Market Growth Opportunity

Several elements affect the industrial use of rapeseed and rapeseed oil. Import duty and tax structure for denatured and non-denatured oils is a major market factor. Denatured oil used in rubber compounding and lubricants is exempt from both import duties and taxes, whereas non-denatured oil, brought in and used for the same purposes, has a 4.5 cents per gallon duty imposed on

it. Non-denatured oil imported for uses other than for rubber compounding and making greases or lubricating oils is subject to a duty of 4.5 cents per gallon and a 1.8 cents per pound tax. Denatured oil, if used for purposes other than rubber compounding or lubricating oil and greases, is taxed at 1.8 cents a pound but is duty free.

Competition from partial or total substitutes for rapeseed oil, such as oils from palm, soybeans and flaxseed, and inedible tallows and greases affect rapeseed oil demand and usage. For example, the use of rapeseed oil as a quenching oil can be replaced by hydrogenated fish oil, and linseed oil can replace rapeseed oil as a drying agent in paints and varnishes.

Another influence on the potential growth in use of whole rapeseed oil is the availability of refiners rapeseed oil foots from Europe that could compete as sources of fatty acid derivatives of rapeseed oil. These are the free-fatty-acid residues from processing rapeseed oil for margarine and other food uses. Availability of these foots from Europe could also reduce demand for whole rapeseed for crushing. Price of these rapeseed oil foots, as a source of erucic acid to make various industrial chemical intermediates, is an important economic factor when considering domestic production of rapeseed or other sources of erucic acid for industrial uses. Current price data on rapeseed oil foots are not available. As a soapstock, prices in Europe for a 50 percent erucic acid content material range from 4.5 to 6.0 cents a pound.

The development of synthetic raw materials that meet rigid performance standards has caused rapeseed oil to be replaced in many specific uses. Synthetic petroleum-based emulsifiers can replace rapeseed oil in greases and lubricants. Furthermore, use of machinery and steam engines that require lubricants and oils made from rapeseed oil has declined. The future market of rapeseed oil as a raw material component in lubricants and greases is not promising.

The situation for rapeseed oil derivative in the rubber industry is somewhat brighter. Growth in use of rapeseed oil in rubber compounding depends on two factors: (1) the continued availability and competitive price structure of rapeseed oil, and (2) the expansion in use of reprocessed rubber to make flexible or plastic molded rubber products. Industrial users indicate that some future growth in use is expected.

The bird feed market for whole rapeseed is not expected to increase substantially. Rapeseed is only a small percentage component of bird feed mixes. Unexpected growth in bird feed markets, therefore, would be necessary to cause a noticeable increase or a change in the market share of rapeseed that goes to this use.

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